

Fig. 1a

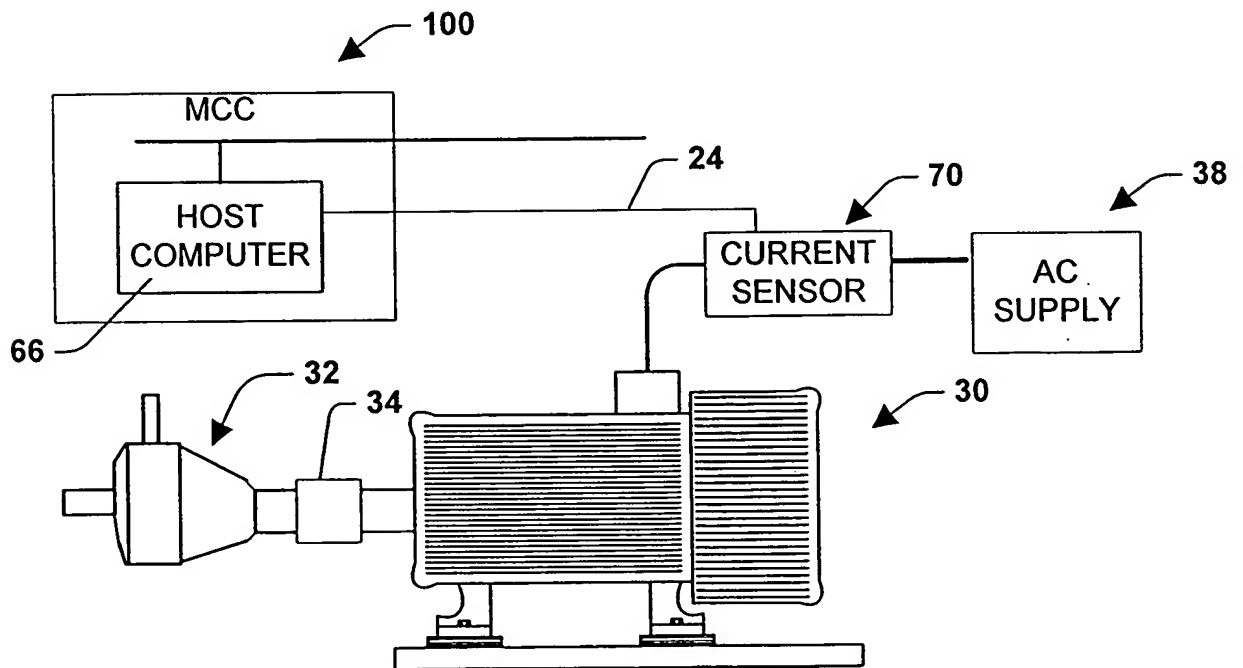


Fig. 1b

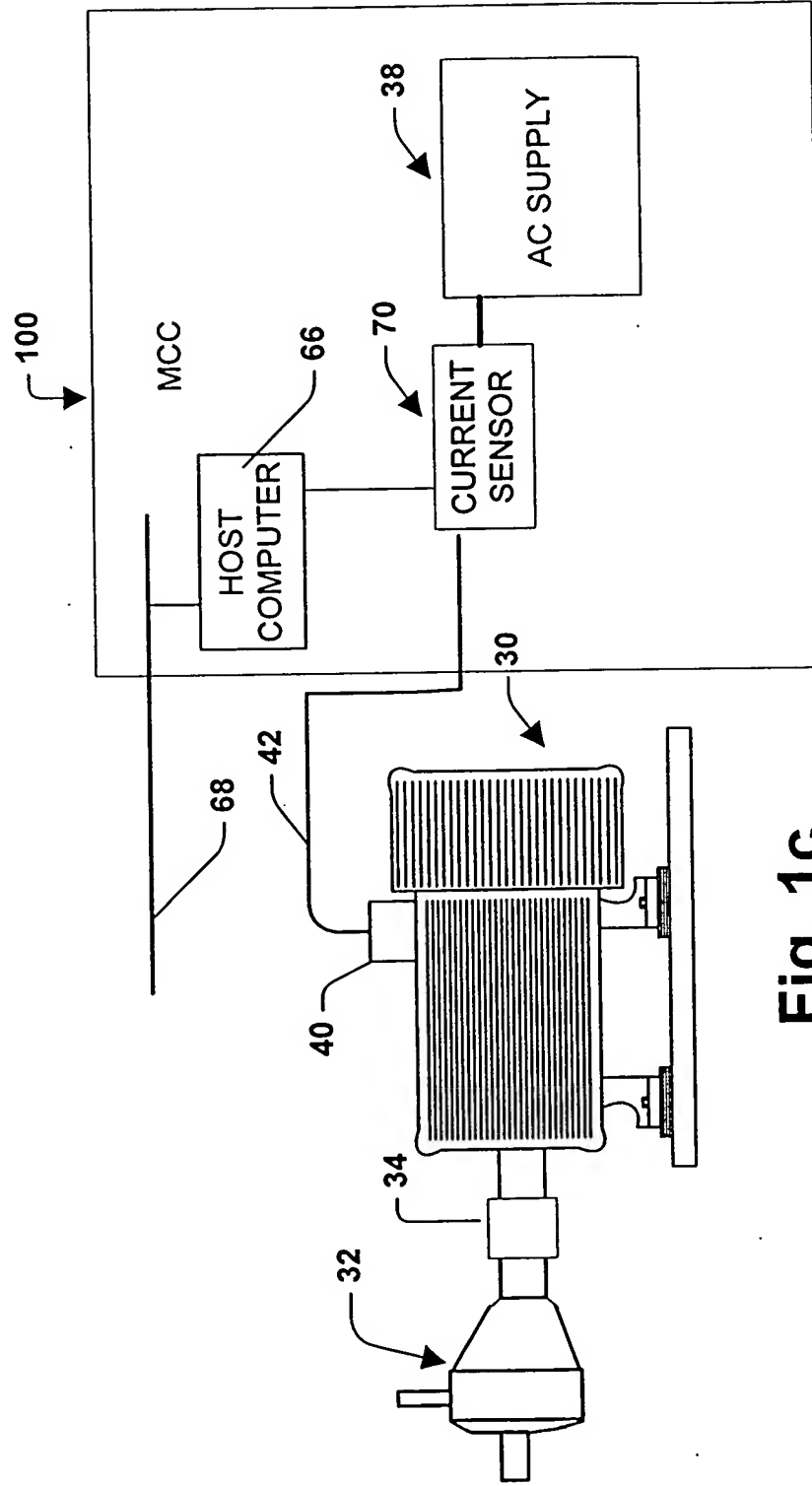


Fig. 1c

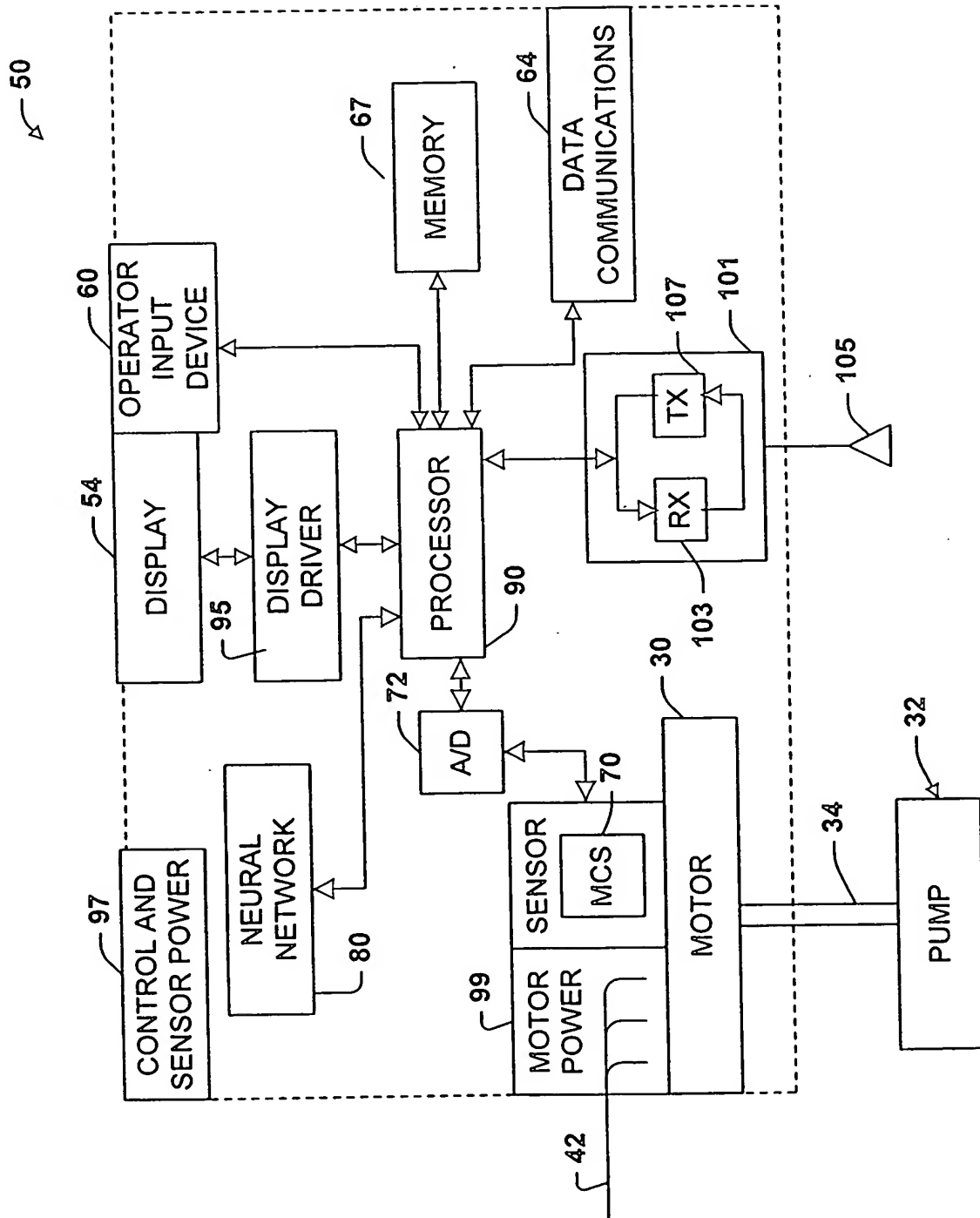


Fig. 2

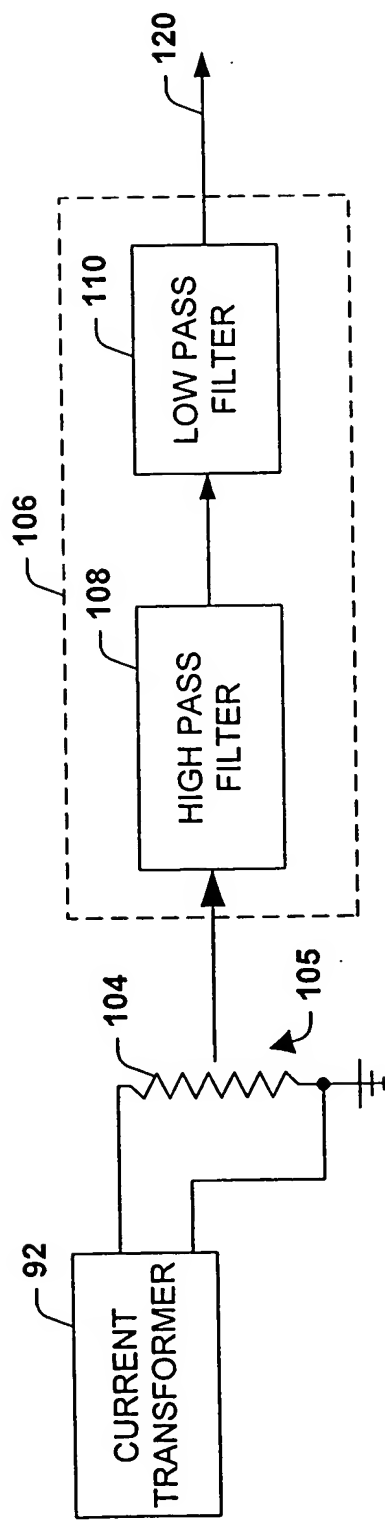


Fig. 3

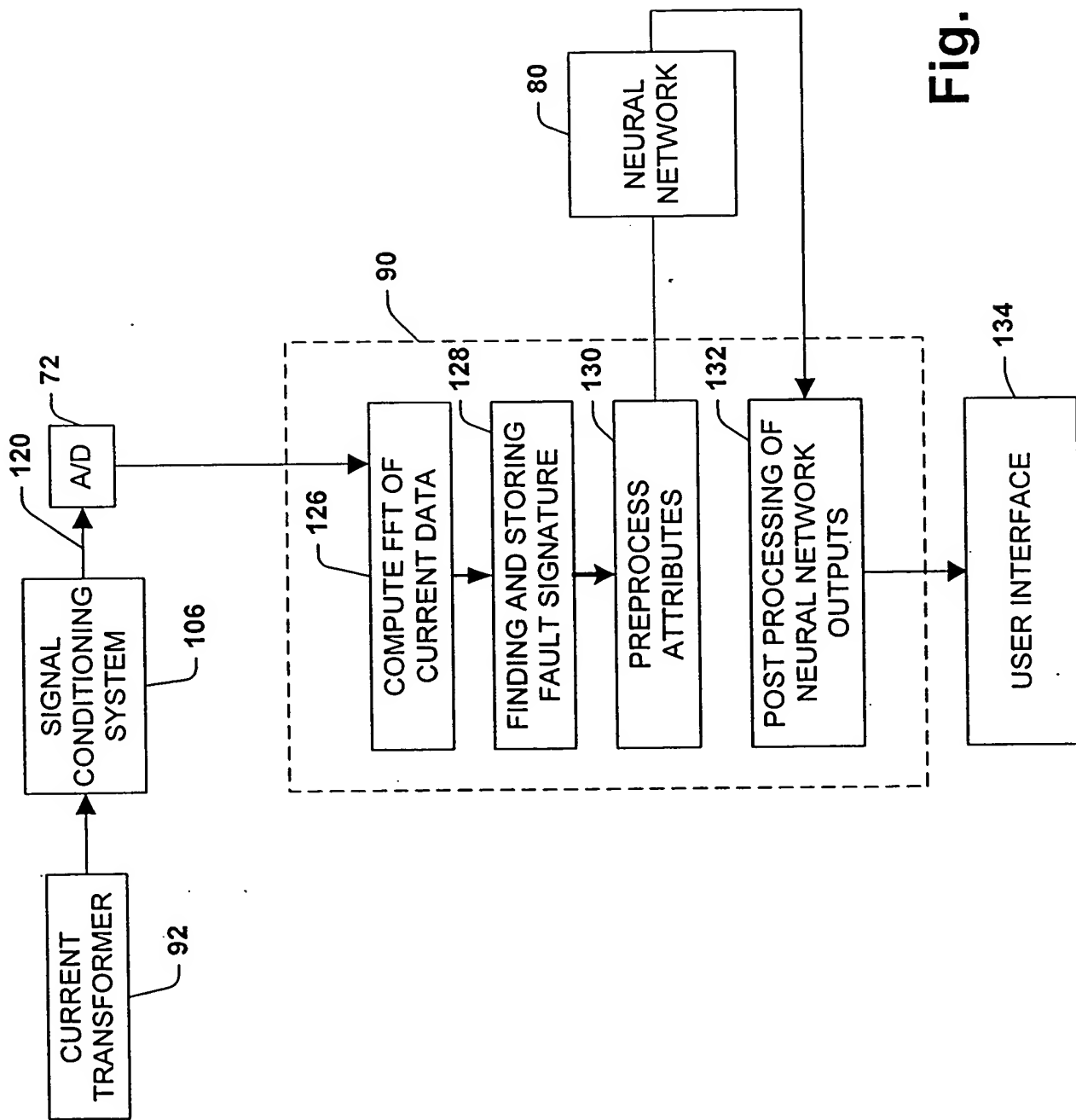


Fig. 4a

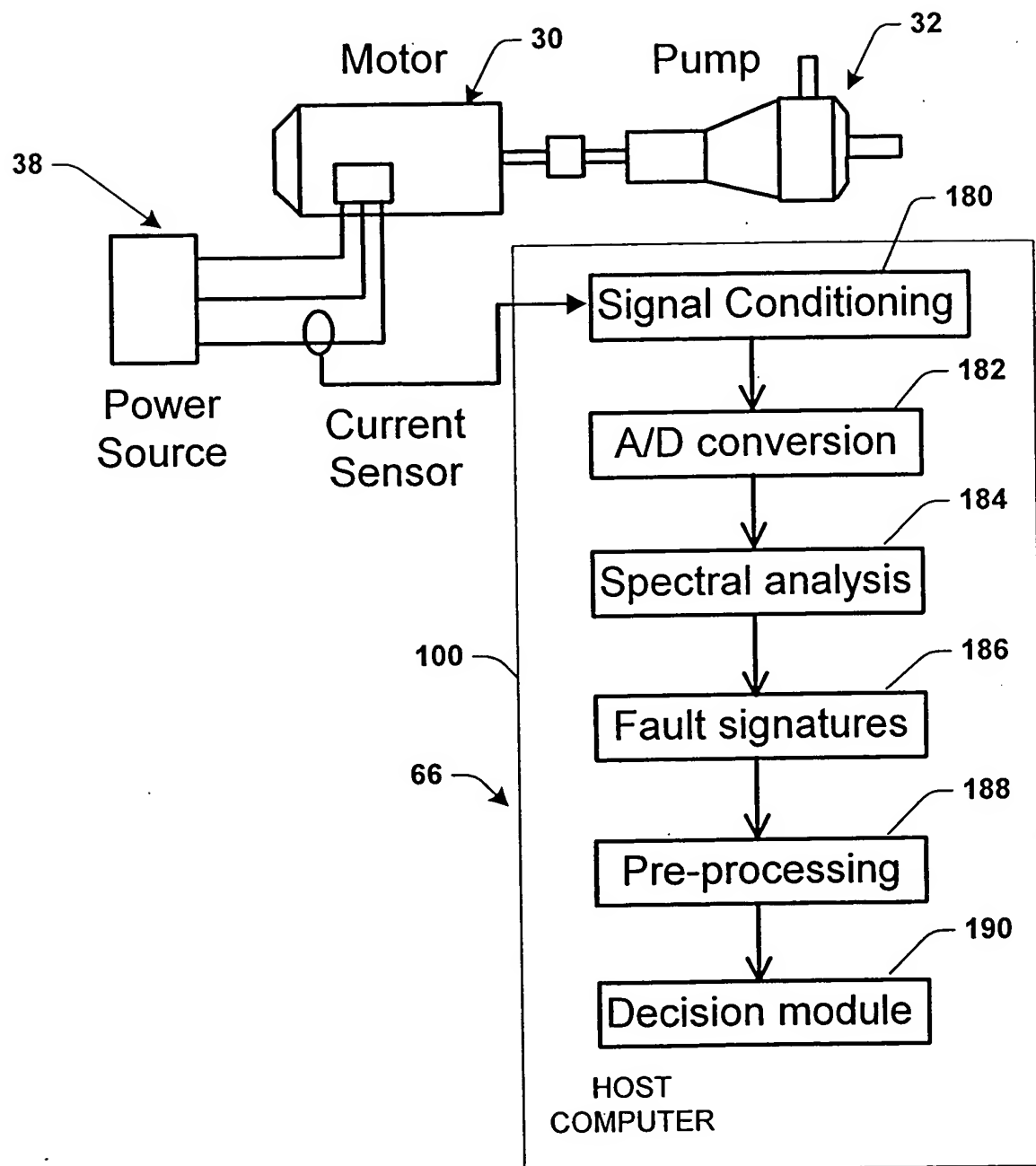


Fig. 4b

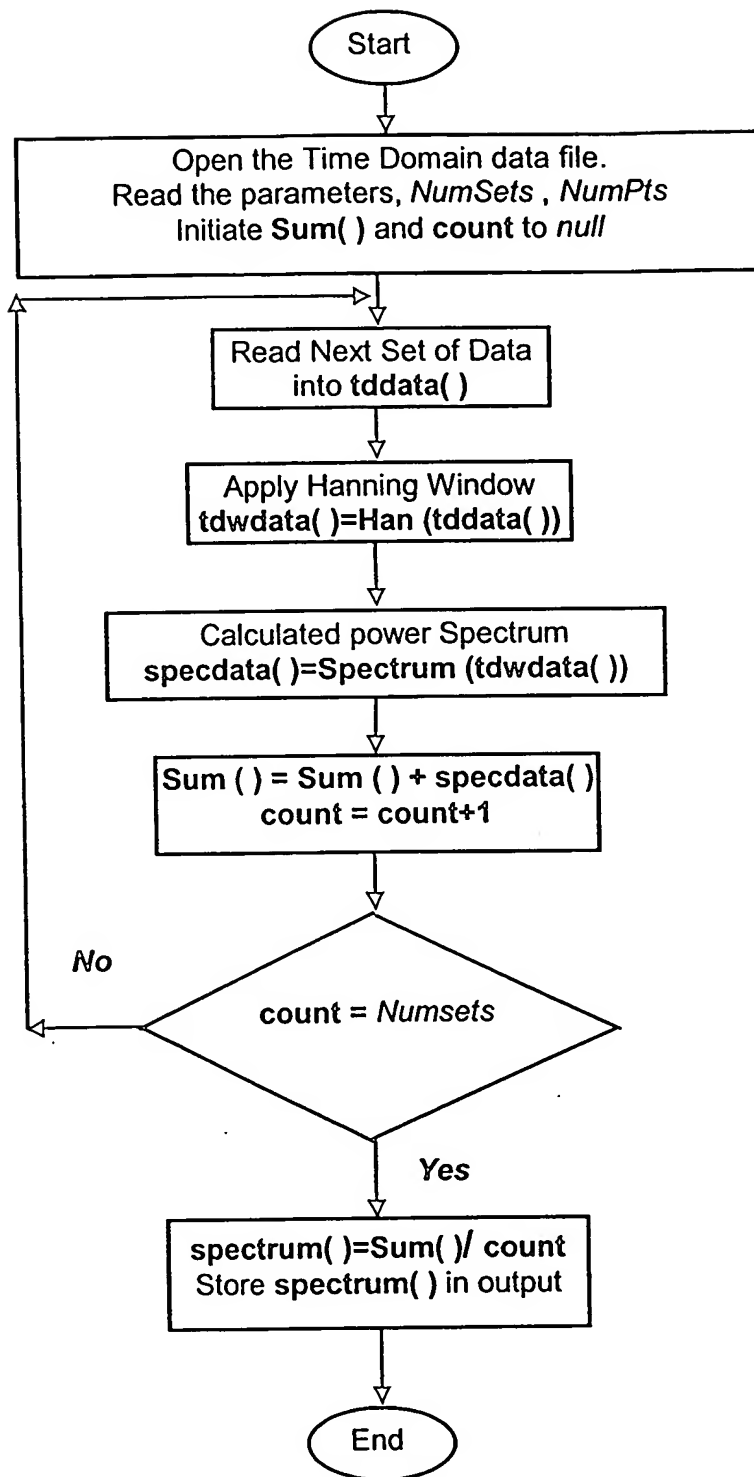


Fig. 5

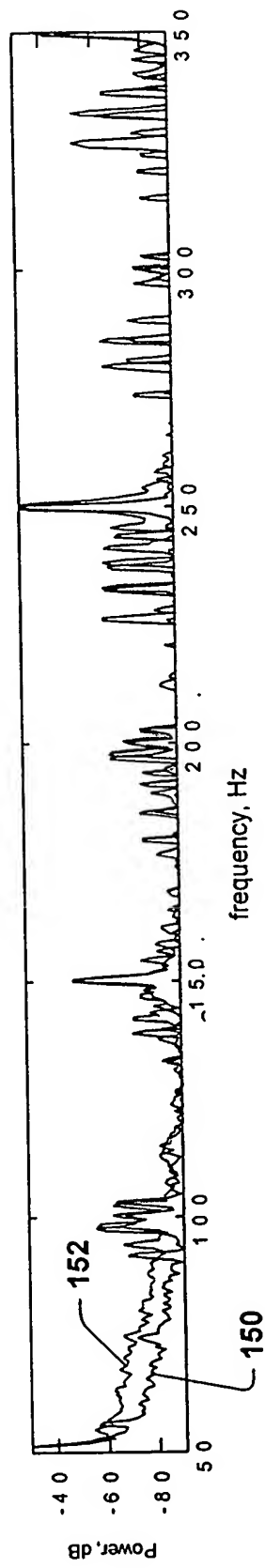


Fig. 6a

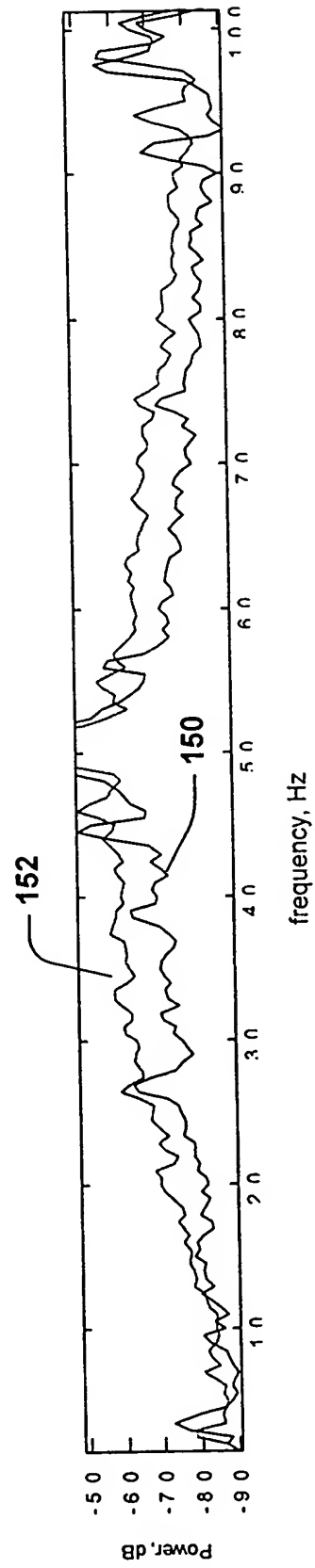


Fig. 6b

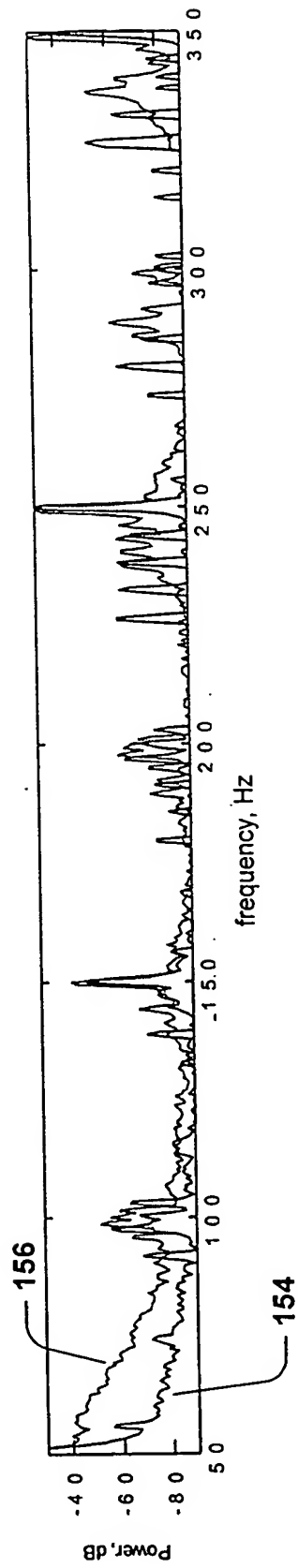


Fig. 6c

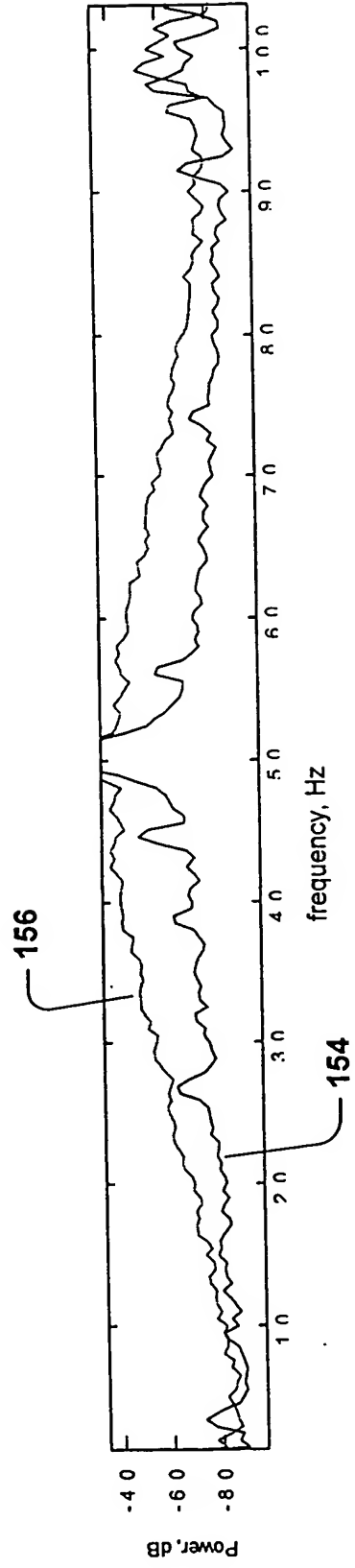


Fig. 6d

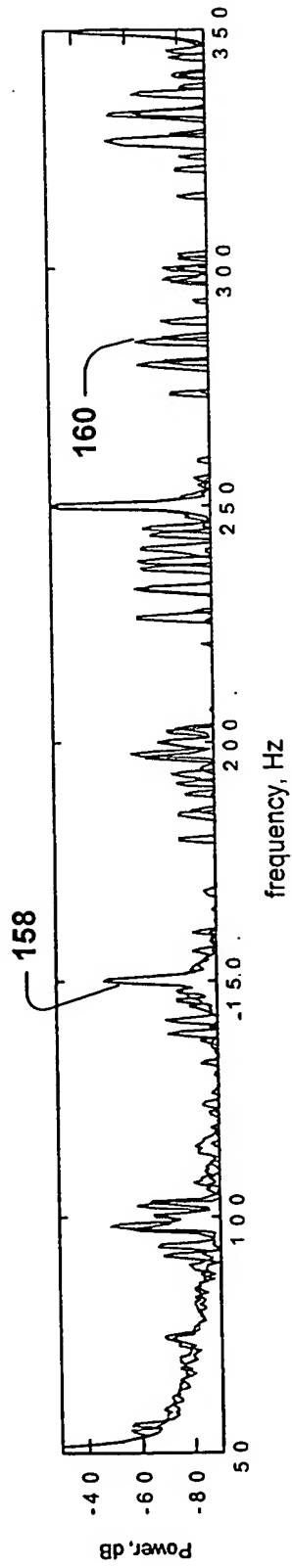


Fig. 6e

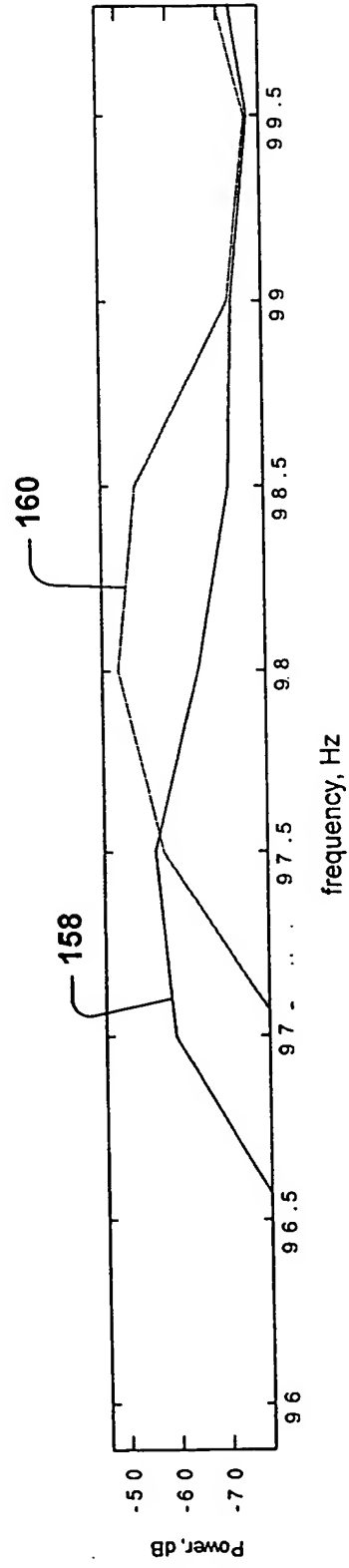


Fig. 6f

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f_0	f_1	f_2	f_3	f_4	\bullet	\bullet	\bullet	\bullet	f_n	
A_3	A_{34}	A_{67}	A_{78}	A_{84}	\bullet	\bullet	\bullet	\bullet	A_K	HEALTHY PUMP
A_{34}	A_{68}	A_{90}	A_{85}	A_{45}	\bullet	\bullet	\bullet	\bullet	A_H	PUMP FAULT 1
A_{56}	A_{45}	A_{45}	A_{56}	A_{78}	\bullet	\bullet	\bullet	\bullet	A_X	PUMP FAULT 2
A_{23}	A_{45}	A_7	A_{90}	A_{12}	\bullet	\bullet	\bullet	\bullet	A_Z	PUMP FAULT 3
A_{67}	A_{36}	A_3	A_{45}	A_{47}	\bullet	\bullet	\bullet	\bullet	A_X	PUMP FAULT 4
A_{78}	A_{67}	A_{12}	A_{67}	A_{37}	\bullet	\bullet	\bullet	\bullet	A_C	PUMP FAULT 5
A_{234}	A_{27}	A_{478}	A_{24}	A_{127}	\bullet	\bullet	\bullet	\bullet	A_Q	PUMP FAULT 6
A_{98}	A_{78}	A_{26}	A_{12}	A_{128}	\bullet	\bullet	\bullet	\bullet	A_B	PUMP FAULT 7
A_{26}	A_{96}	A_{83}	A_{56}	A_{234}	\bullet	\bullet	\bullet	\bullet	A_M	PUMP FAULT 8
A_4	A_{32}	A_{187}	A_{56}	A_{34}	\bullet	\bullet	\bullet	\bullet	A_I	PUMP FAULT 9
A_0	A_{16}	A_{73}	A_{76}	A_{33}	\bullet	\bullet	\bullet	\bullet	A_E	PUMP FAULT N-1
A_{75}	A_{17}	A_{45}	A_{89}	A_{44}	\bullet	\bullet	\bullet	\bullet	A_Q	PUMP FAULT N

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Fig. 6g

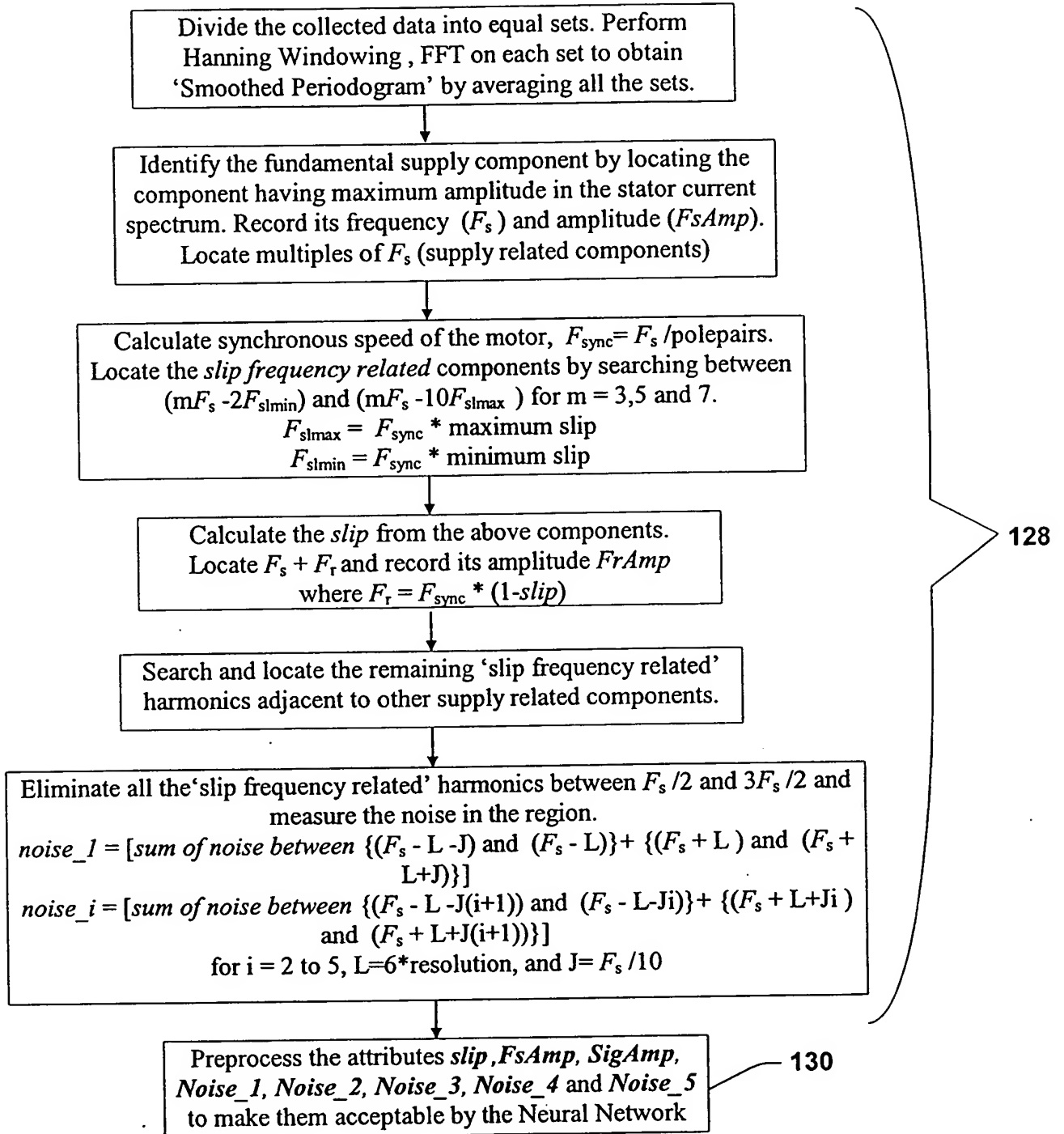


Fig. 7

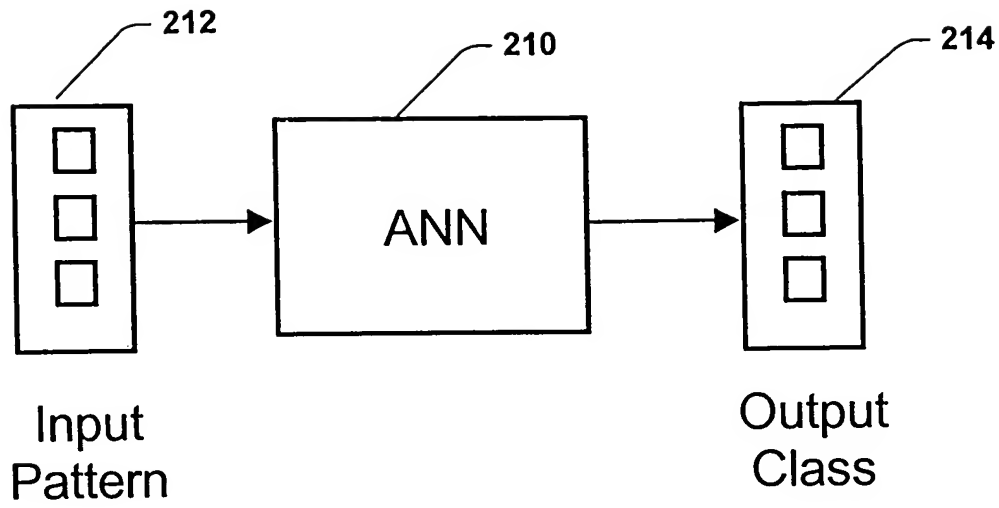


Fig. 8

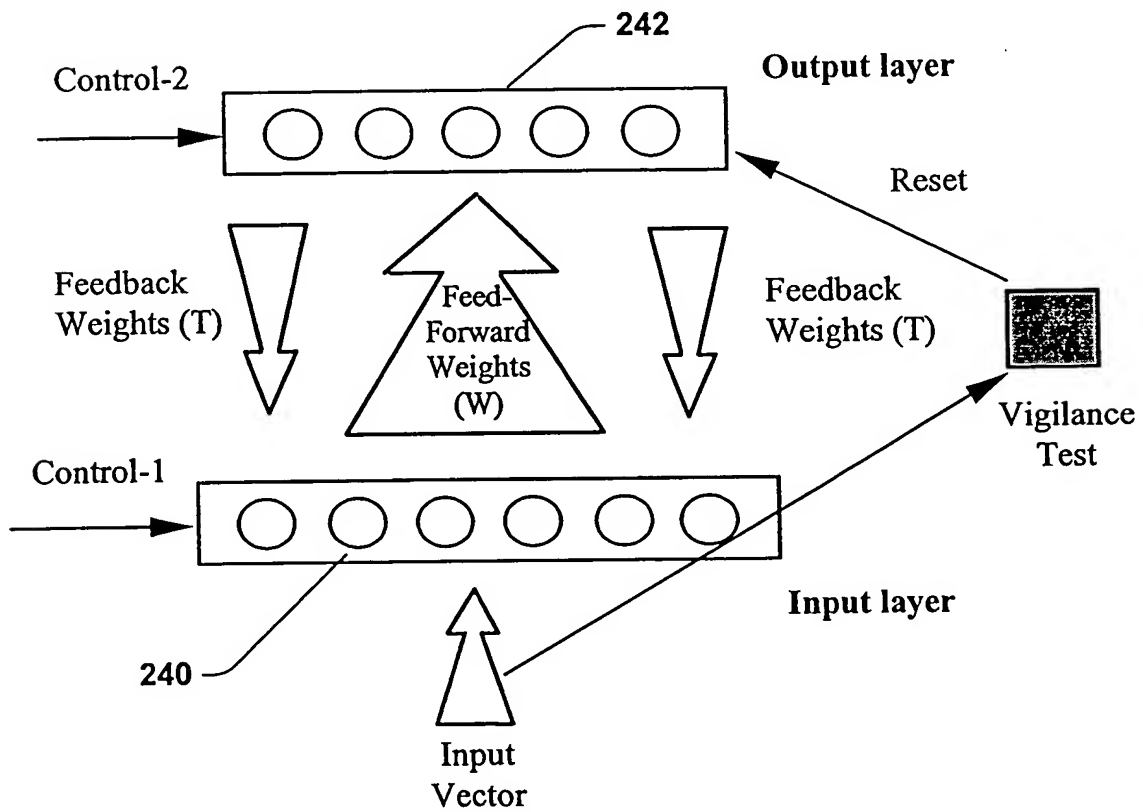


Fig. 9

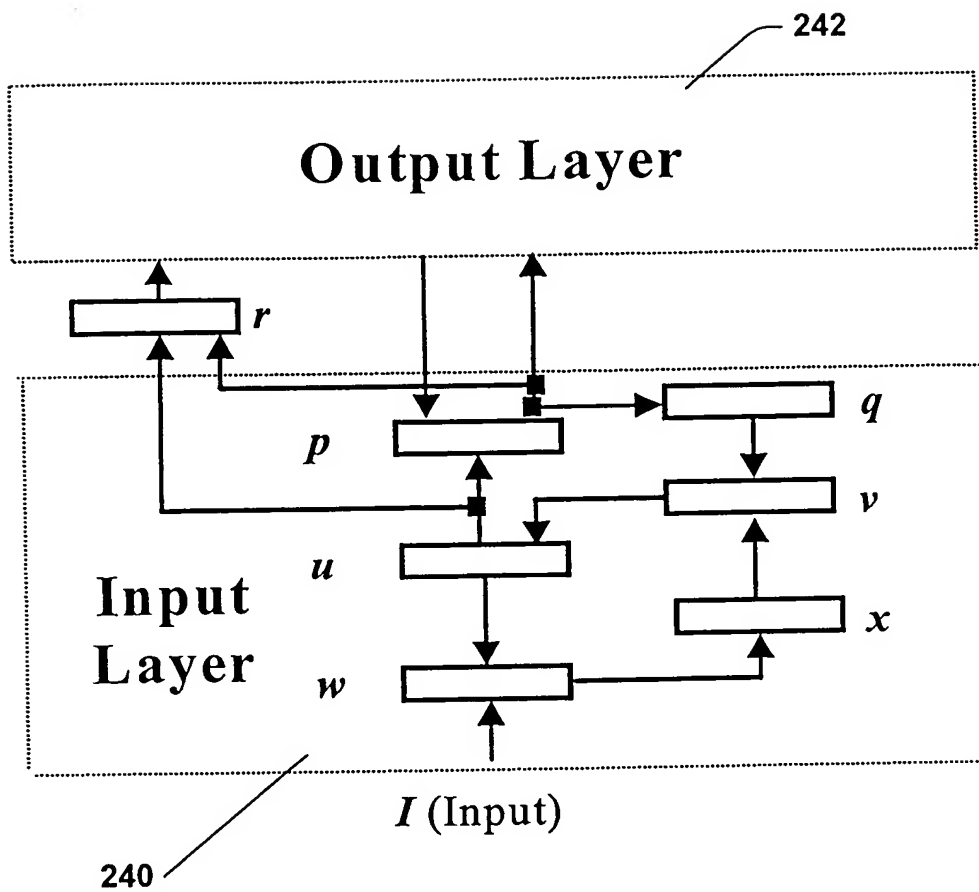


Fig. 10

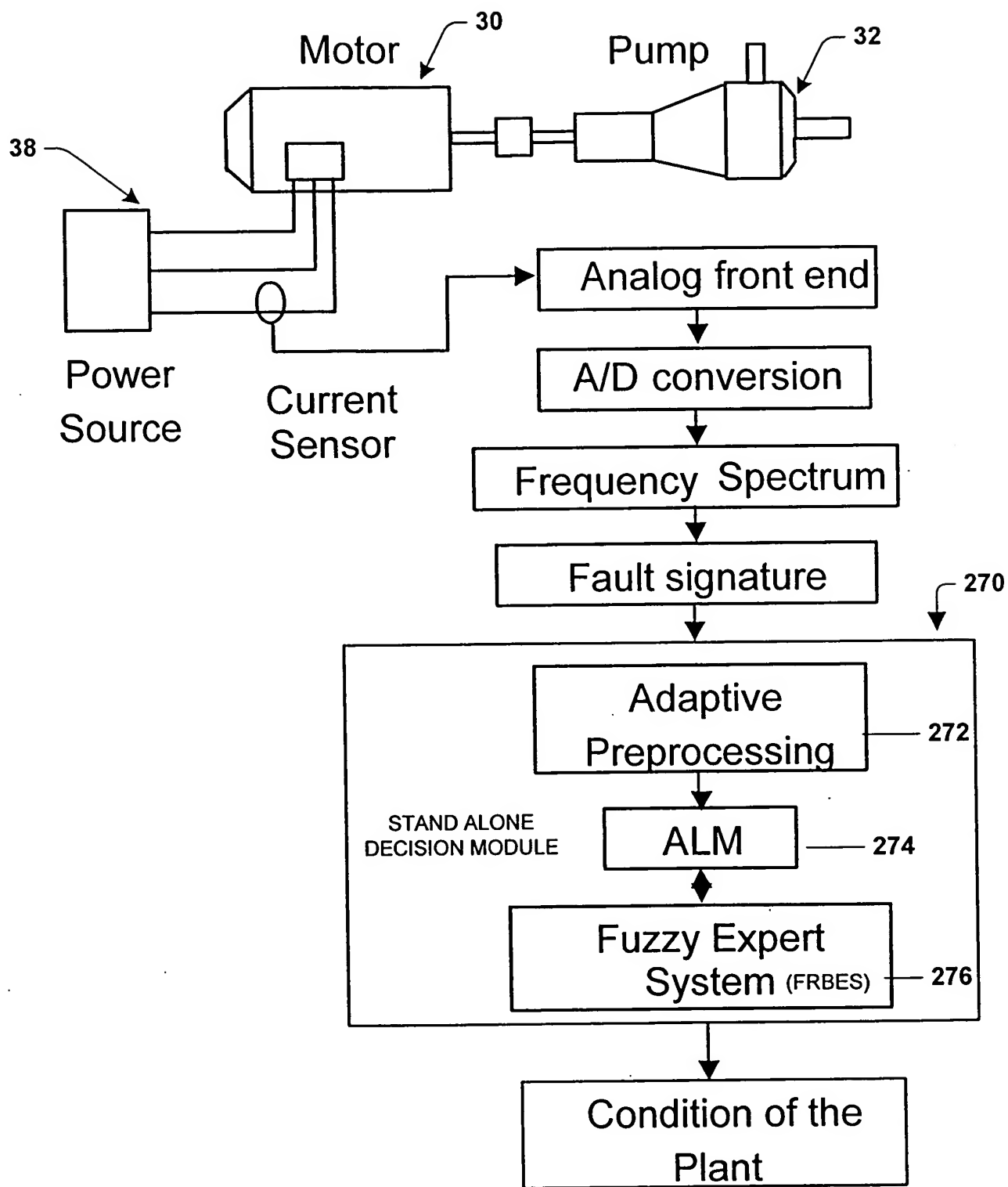


Fig. 11

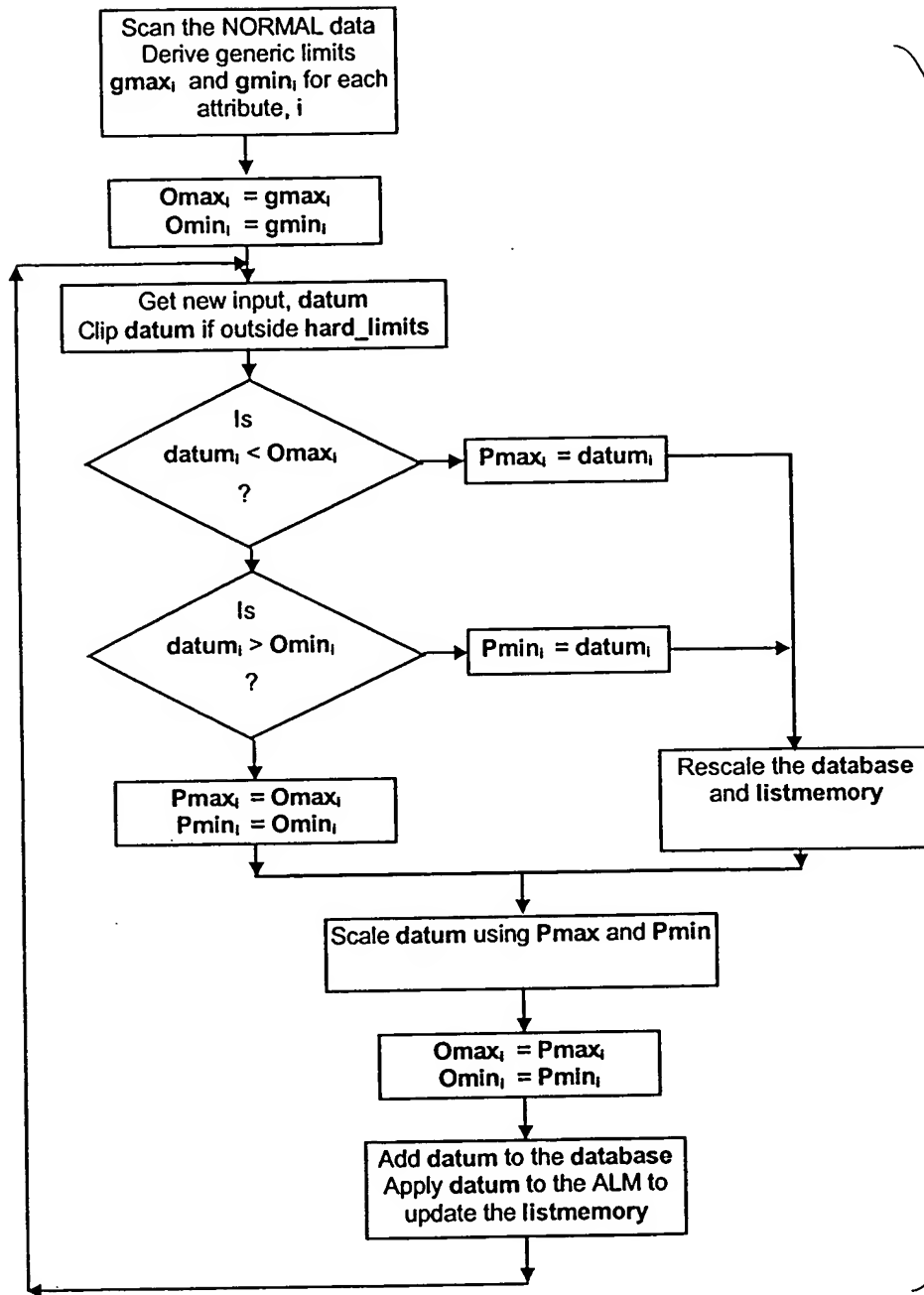


Fig. 12

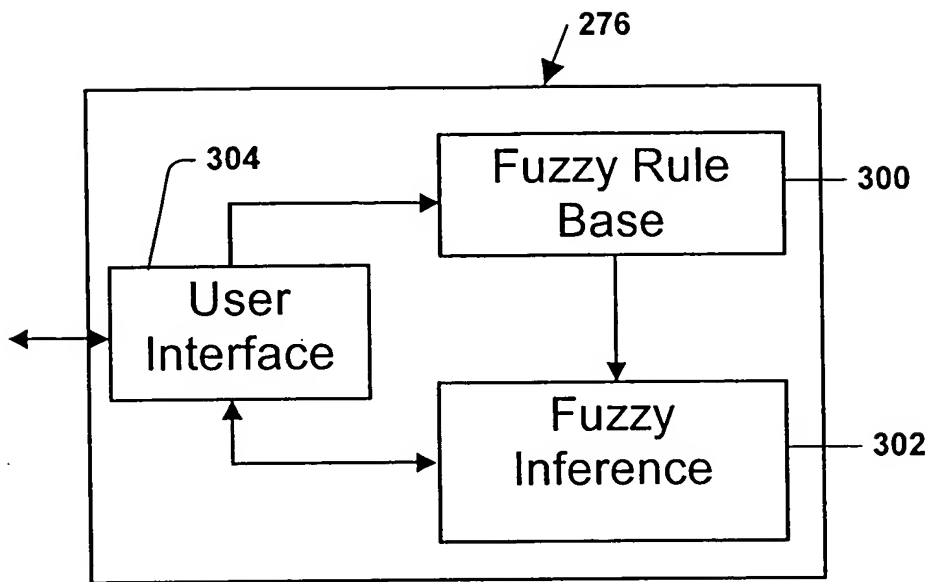


Fig. 13

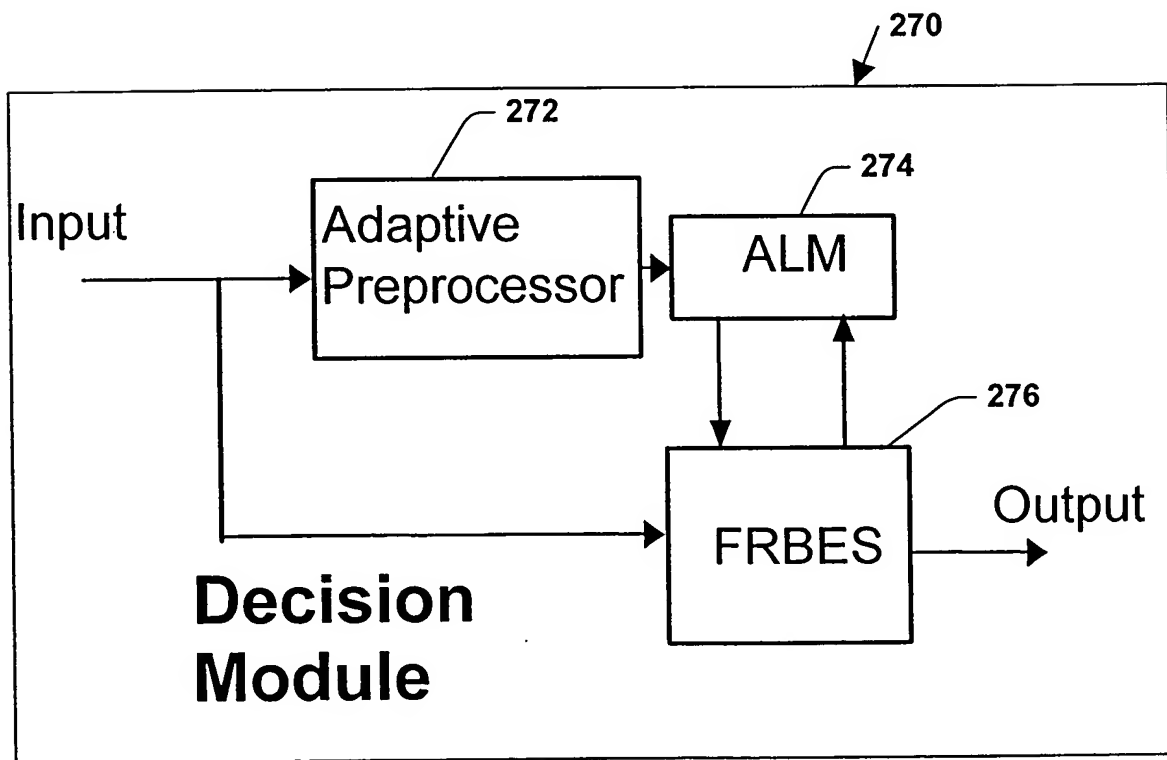


Fig. 14

IF all the attributes are *NORMAL* THEN condition is normal
 IF slip is *SLO* and noise_2 is *H* THEN condition is low cav
 IF noise_4 and noise_5 are *VERH* THEN condition is sev cav
 IF noise_4 and noise_5 are *H* THEN condition is sev cav
 IF FsAmp is *SLO* and noise_5 are *SLH* THEN condition is sev cav
 IF FsAmp is *LO* and noise_5 is *SLH* THEN condition is sev cav
 IF FsAmp is *VERLO* and noise_5 is *SLH* THEN condition is sev cav
 IF FsAmp is *SLO* and noise_4 are *H* THEN condition is sev cav
 IF FsAmp is *LO* and noise_4 is *H* THEN condition is sev cav
 IF FsAmp is *LO* and noise_4 is *VERH* THEN condition is sev cav
 IF FsAmp is *SLO* and slip is *SLO* and noise_4 is *NORMAL* and noise_5 is *NORMAL* THEN condition is low block
 IF FsAmp is *LO* and noise_4 is *NORMAL* and noise_5 is *NORMAL* THEN condition is sev block
 IF slip and FsAmp are *VERLO* THEN condition is sev block
 IF FrAmp is *H* THEN condition is impel-fault
 IF framp is *VERH* THEN condition is impel-fault

Fig. 15

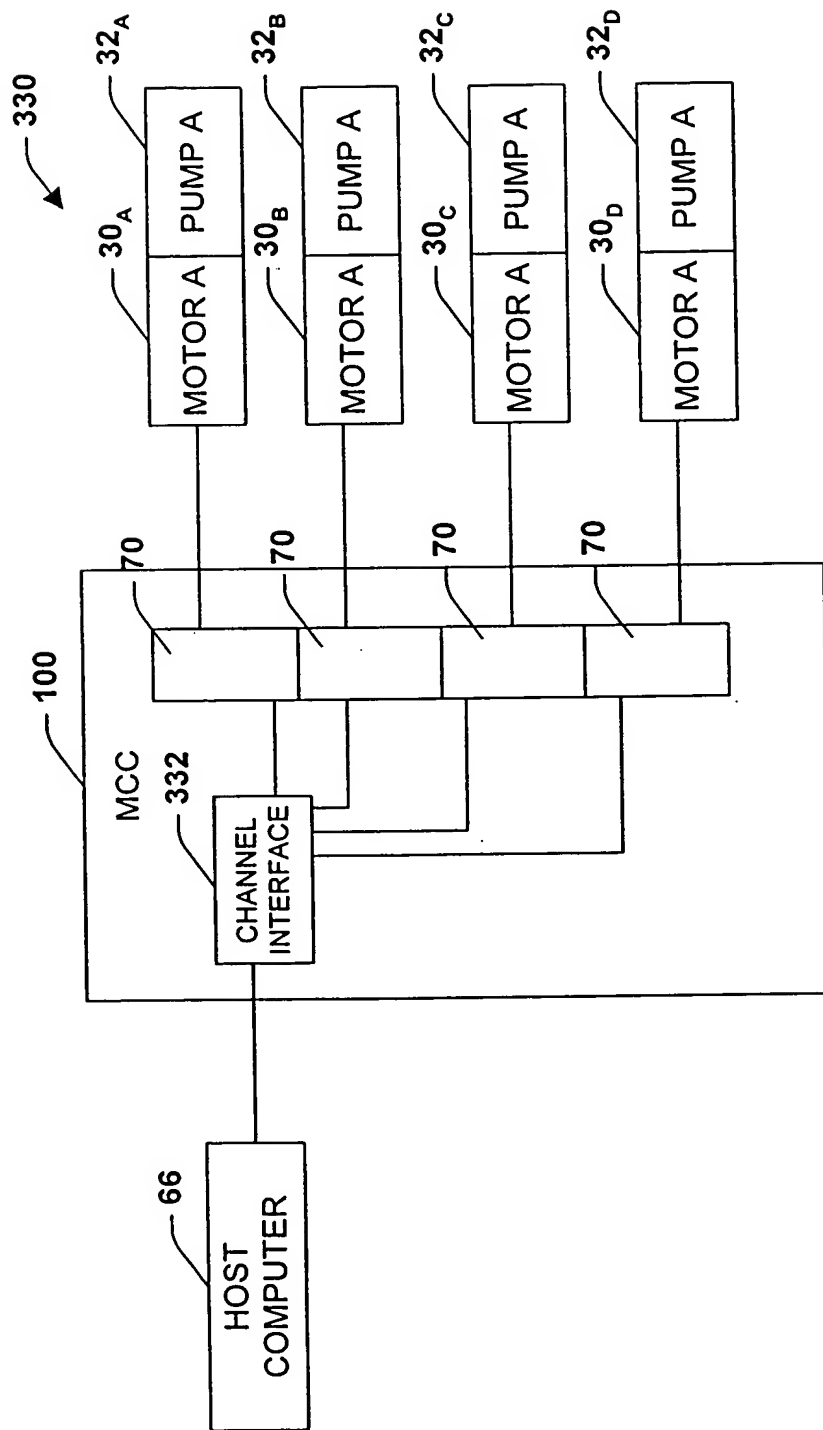


Fig. 16

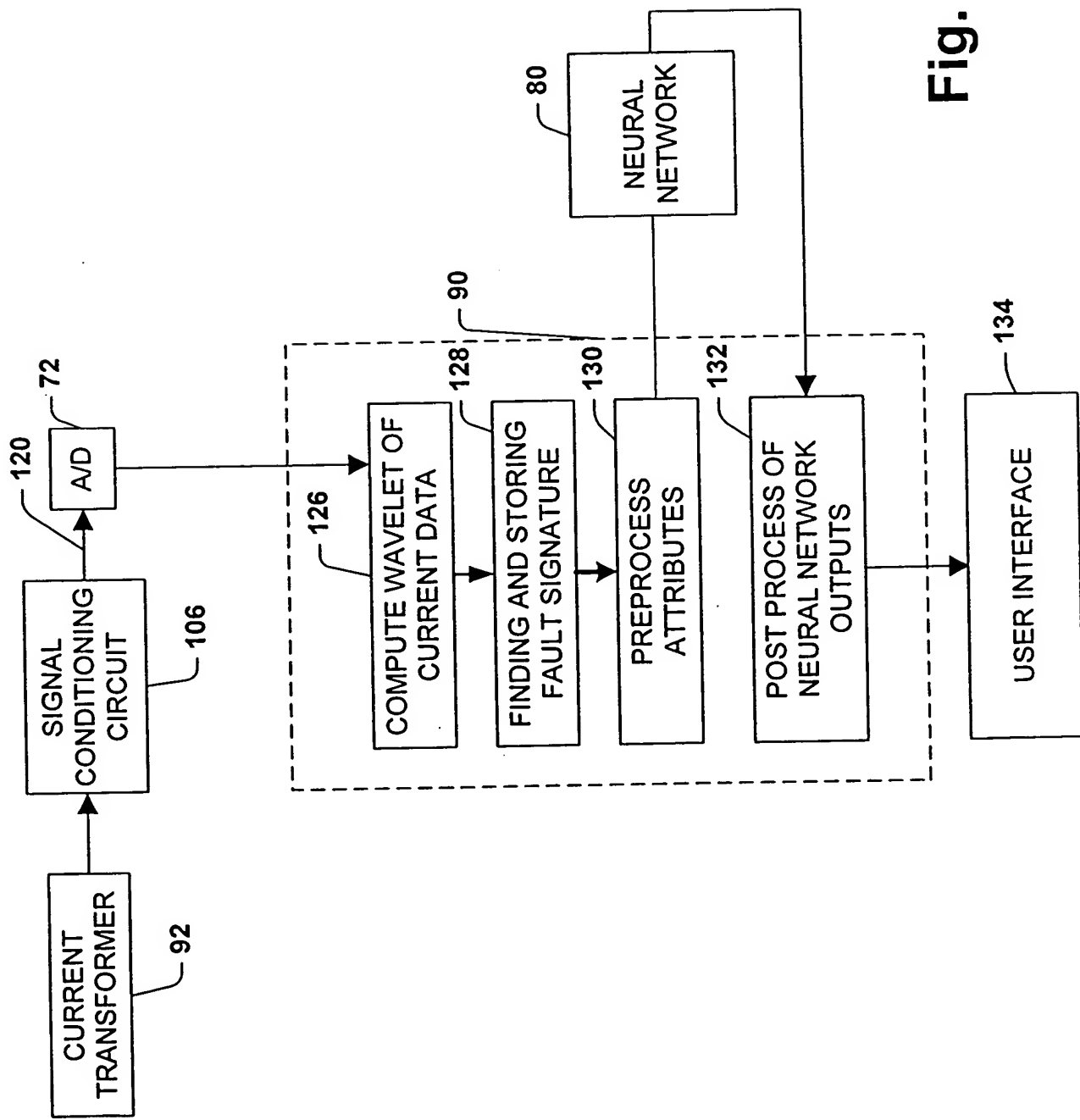


Fig. 17